KINGSTON WATER DEPARTMENT

Annual Drinking Water Quality Report for 2014
(Public Water Supply ID# 5503374)

DEAR CUSTOMER:

The Kingston Water Department is pleased to present a summary of the quality of the water provided to you during 2014. The purpose of this report is to raise your understanding of drinking water and your awareness of the need to protect our drinking water sources. Last year, we conducted tests for over 80 contaminants and we detected 11 of those contaminants. Of those 11, only effluent turbidity exceeded the State limit of 1 NTU on a single occasion during each of the months of September and October 2014. This was a Treatment Technique violation under Part 5.1 of the New York State Sanitary Code. However, the water entering the distribution system during these months never exceeded 0.3 NTU. In addition, during July 2014, an equipment failure at our UV Plant caused an interruption in our chlorine feed system that lasted for more than 4 hours and we issued a Boil Water Advisory (BWA) as a result of that interruption. That BWA was lifted as soon as testing confirmed that the water was safe to drink. However, to repair the chlorination equipment, it was necessary to bypass the UV plant beginning at 11PM on July 17th and ending on July 19th at 3:30 PM. The State requires that the water be treated with UV light at the proper dose and wavelength 95% of the time to inactivate Giardia and Cryptosporidium, organisms that have never been detected in our water supply. Bypassing the Plant to make the repairs to the chlorination equipment caused our percent to drop to 94.5%, which is below the mandated 95% and the exceedance is a treatment technique violation of Part 5 of the NYS Sanitary Code. A Treatment Technique is a required process that is intended to reduce the level of a contaminant in drinking water. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. You were notified of these events when they occurred and there in nothing further that you need to do.

The Kingston Water Department has received a reduced monitoring waiver for lead and copper monitoring due to the low levels of these contaminants in our system and the KWD was scheduled to sample for lead and copper during the summer of 2014. This deadline was inadvertently missed and we are now scheduled to monitor for both lead and copper during June 2015. The failure to monitor in 2014 as scheduled is a monitoring violation under Part 5 of the NYS Sanitary Code. Although past monitoring for lead and copper have shown reduced levels for both contaminants, the health effects of this lapse are unknown.

This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

We want you to be informed about your drinking water. If you want to learn more, Water Board meetings are held on the second Wednesday of each month in the offices of the Kingston Water Department, 111 Jansen Avenue, Kingston, NY 12401. The meetings begin at 3:00 PM and the public is welcome. If you have any questions about this report or your drinking water, please contact Judith Hansen, Superintendent at 845-331-0175, fax 845-340-9209, or e-mail at water@kingston-ny.gov. You may also mail inquiries to the Kingston Water Department at PO Box 1537, Kingston, NY 12402.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in surface water include: microbial contaminants; inorganic contaminants, including phosphorus; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Kingston gets its water from a Catskill stream. From there, it is piped into our Cooper Lake Reservoir. From the Reservoir, water flows by gravity through a transmission main to our Edmund T. Cloonan Water Treatment Plant. The NYS DOH conducted source water assessments for Cooper Lake and our emergency sources (Reservoirs 1, 2, and 4). These assessments evaluate the possible and actual threats to our sources and, although it includes a susceptibility rating which estimates the risk posed by each potential source of contamination, it does not mean that the water delivered to consumers is, or will become contaminated. The NYS DOH has found that Cooper Lake contains no discrete potential contaminant sources, and the land cover contaminant prevalence ratings are low. The NYS DOH has not conducted a source water assessment for the Mink Hollow stream which is our principal source of supply. Those assessments that have been completed are available for inspection by calling the Water Department at 331-0175.

The treatment technologies that are employed by the Kingston Water Department include chlorine disinfection, direct filtration with alum coagulation, corrosion control via the addition of lime and ultraviolet disinfection. The treatment facilities have nominal capacities of 8 MGD.

FACTS AND FIGURES

Our water system serves approximately 23,893 people through 7,900 service connections. The total water produced in 2014 was 1,638,675,000 gallons. The total amount of water delivered to the distribution system was 1,481,383,000 gallons and the average flow into the system was 4.0 million gallons per day. The single highest flow was 4.47 million gallons and occurred on July 10th. The amount of water registering through our customer meters was approximately 860 million gallons. The difference between the water entering the distribution system and the amount registering through our customer meters is 622 million gallons. Of that total, some was estimated to be used to flush mains, fight fires, and maintain sewers and streets. In addition, some of that water was lost through known meter inaccuracies and water main breaks. The balance is assumed to be lost to leakage. In 2014, water customers were charged according to the following rate schedule:

0 to 4 Units	$40.13
Next 16 Units	$2.83 per
Next 20 Units	$2.57 per
Next 60 Units	$2.31 per
Next 900 Units	$1.80 per
> 1000 Units	$1.33 per

Meters record usage in cubic feet and a unit of water is equal to 100 cubic feet (748 gallons). All revenues from water rents remain within the Department to fund our operation. In 2014, we operated on an annual budget of $4.131 million and water sales accounted for $3.867 million or 94 percent of the total budget. The average rate per unit of water delivered was $3.37. While a sewer usage fee of $6.01 per unit of water consumed was collected with the water bills, the Water Department does not set or determine the sewer rate or administer the funds. The Department merely acts as collection agent for the sewer fund and turns over all moneys to the City's Comptroller weekly.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As New York State regulations require, we routinely test your drinking water for more than 80 contaminants. These contaminants include total coliform bacteria, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water in 2014.

It should be noted that all drinking water, including bottled drinking water, might be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Ulster County Health Department at 845-340-3010.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Result	Unit	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Chloride	No	02/11/2014	3.9	mg/L	NA	MCL =250	Naturally occurring or indicative of road salt contamination
Sodium	No	02/11/2014	2.4	mg/L	NA	N/A	Naturally occurring; Road salt; Water softeners; Animal waste
Lead [1]	No	8/2011	6	ug/L	0	AL = 15	Corrosion of household plumbing
Copper [1]	No	8/2011	0.05	mg/L	1.3	AL= 1.3	Corrosion of household plumbing

Sulfate	No	02/11/2014	5	mg/L	N/A	MCL = 250	Naturally occurring
Barium	No	02/11/2014	0.0041	mg/L	2.00'	2.00	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Iron	No	02/11/2014	0.008	mg/L	N/A	0.3	Naturally occurring
Manganese	No	2/11/2014	0.003	mg/L	N/A	0.3	Naturally occurring; indicative of landfill contamination.
Strontium	N/A	2014	0.0148 0.013 – 0.017	mg/L	N/A	N/A	Naturally occurring
Vanadium	N/A	2014	0.00045 0.00027-0.00069	mg/L	N/A	N/A	Naturally occurring
Chromium-6	N/A	2014	0.000045 0.000038-0.000050	mg/L	N/A	N/A	Naturally occurring
Chromium (Total)	0.100	2014	0.00028 ND – 0.00028	mg/L	N/A	N/A	Naturally occurring
Chlorate	N/A	2014	0.048 0.028 – 0.076	mg/L	N/A	N/A	By-product of drinking water disinfection using sodium hypochlorite
THM's [2] Trihalomethanes	No	2014	32.6 21.4 – 42.8	ug/L	N/A	MCL =80	By-product of drinking water chlorination
HAA5's [2] Haloacetic Acids	No	2014	14.48 6.0 – 29.8	ug/L	N/A	MCL = 60	By-product of drinking water chlorination
Turbidity[3]	Yes	09/19/2014	1.6	NTU	N/A	TT = <1 NTU	Soil Runoff
Turbidity[3]	Yes	10/2014	0.2	NTU	N/A	TT = <1 NTU	
Turbidity[3]	No	2014	99.7%	NTU	N/A	TT= 95% of samples <0.3 NTU	

Notes:

1 – The level presented represents the 90th percentile of the 31 samples that were collected in 2011. This sampling was supposed to be repeated in 2014, but was inadvertently missed. This resulted in a tier 3 monitoring violation. The lead and copper sampling will be repeated in June 2015.

2 – This level represents the annual average and range calculated from data collected in 2013.

3 – We test turbidity levels because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for 2014 occurred on September 19th (1.6). State regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU and that **all** turbidities are below 1 NTU. There were 2 turbidity measurements that exceeded the maximum allowable turbidity of 1NTU and both resulted in Treatment Technique Violations since the maximum allowable turbidity of 1 NTU exceeded in both September and October 2014. All were associated with valving operations at Cooper Lake Reservoir that took place during September and October 2014 that elevated the influent turbidities at the Treatment Plant. During October 2014, the Treatment Technique for turbidity was exceeded since there were a total of 7 readings that exceeded the 0.3 NTU limit out of a total of 2,190 and all were associated with the work at Cooper Lake. The highest monthly average was 0.2 NTU and occurred in October.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfection Level (MRDL): The highest level of a disinfectant that is allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. The Kingston Water Department disinfects with chlorine. The MRDL for chlorine is 4.0 mg/L. Kingston has never exceeded the MRDL and the annual average for 2013 was 0.35 mg/L

Maximum Residual Disinfection Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants. The MRDLG for chlorine is 4 mg/L.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

UNREGULATED CONTAMINANT MONITORING

The 1996 amendments to the Safe Drinking Water Act and the Third Unregulated Contaminant Rule (UCMR3) require that

every five years water suppliers monitor for up to 30 unregulated contaminants. The purpose of the rule is to provide baseline occurrence data that EPA can use to make decisions about future regulations. The Kingston Water Department is currently participating in the third round of this testing. The data from this sampling can be found in Table of Detected Contaminants in this report. For more information about the Unregulated Contaminant Rule and to obtain a list of the unregulated contaminants, go to: http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/

WHAT DOES THIS INFORMATION MEAN?

We have learned through our testing that some substances have been detected; however, these contaminants were detected well below the level allowed by New York State.

OPERATIONS

The Water Department consists of a staff of 25 fulltime employees whose responsibilities include the maintenance of approximately 100 miles of water mains, treatment and distribution of over 3.9 million gallons of water daily, and performance of business operations that accounts for an annual 4.131 million dollar budget. The Water Department can be contacted 24 hours per day, 7 days per week by customers encountering water problems or emergencies at (845)331-0205. To be notified in the event of an emergency or a service interruption involving the water supply, we urge you to sign up for direct notification via phone, email, or text via the Department's SwiftReach system by going to: www.kingston-ny.gov/Swift911. This will enable us to provide you with quick and efficient notification of any water related emergency impacting you or your family.

The Business Office and Maintenance Shop are located at 111 Jansen Ave., Kingston, NY, (845)331-0175. Business Office hours are Monday thru Friday from 8:30 am to 4:30 pm except in July and August, when hours of operation are from 9:00 am to 4:00 pm. Payments for water bills can be mailed, paid in person at the Business Office, deposited in a Night Drop Box located in the front of our Business Office, or by signing up for automatic deduction by Electronic Funds Transfer payment option or by debit or credit card using the website; http://kingston-ny.gov/waterpayments .

Water bills are mailed out on a quarterly basis. Customers are assigned a particular zone designated by the location of their water account. To maintain a positive cash flow, mailing dates for Water Bills are staggered by zone. A mailing schedule may be requested from our Business Office by phone or by email at water@kingston-ny.gov Please supply a fax number, mailing address, or email address.

DO I NEED TO TAKE PRECAUTIONS?

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. A slow drip can waste 15 to 20 gallons a day, or almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day (30,000 gallons a year) from one of these invisible toilet leaks.

SYSTEM IMPROVEMENTS

During 2014, the Department engaged consultants to begin the design work necessary to bring the Cooper Lake Reservoir into compliance with the NYS Dam Safety Regulations that were promulgated in 2009. In addition, the Board will

investigate the feasibility of increasing the capacity of the Reservoir as part of its climate adaptation strategy. It is expected that construction on the dam will begin in 2016. In addition, the Department painted the exterior of the Florence Street Tank, repaired the water mains under two of three CSX crossings, and completed design work on the Phase 1B improvements at the Edmund T. Cloonan Water Treatment Plant and the new backwash tank at the Plant. It is expected that the Plant Improvement project, the backwash tank, and the last CSX crossing will be done in 2015. In 2014, the KWD received confirmation that its application for $2.7 million from the Storm Mitigation Loan Program (SMLP) had been approved. This is a 75% interest free loan and a 25% grant and includes the funding for the Plant Improvements, an emergency generator at the Foxhall Pump Station, as well as a system-wide SCADA system. The Department's current Capital Improvement Plan calls for more than $18 million in capital projects over the next five years and includes the work at Cooper Lake and the Plant. Of that $18 million, 55% is for compliance with regulatory mandates that the Board has little discretion over. Throughout its history, the Board has continued to invest in our infrastructure and, over the past 15 years has increased the asset valuation of the system threefold. Through careful planning and sound fiscal management, we can guide the Department into the next century of operation. The challenges are many and the resources are limited, but the future of the City depends upon our success.

Thank you for allowing us to continue to provide you with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community and our way of life. Please call our office if you have questions.